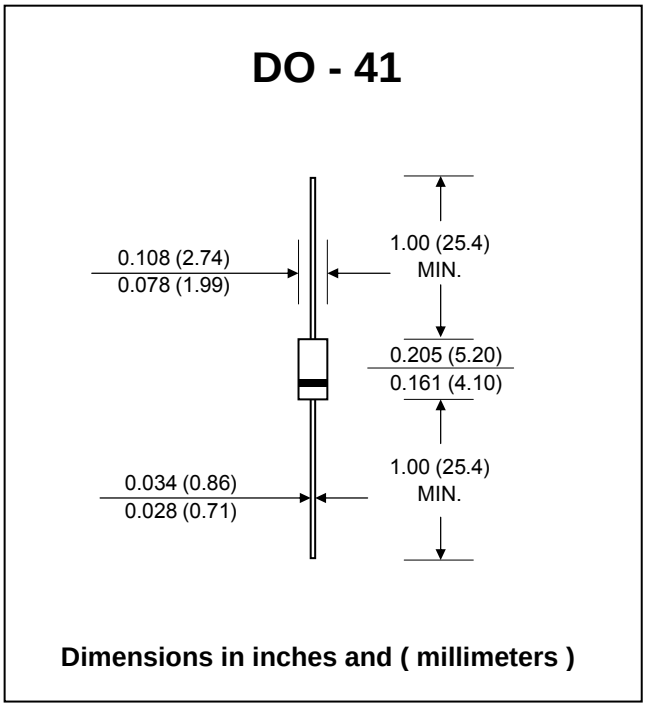
BYW54 - BYW56

AVALANCHE RECTIFIER DIODES

PRV : 600 - 1000Volts
Io : 2.0 Amperes



FEATURES :

* Glass passivated junction chip
* High current capability
* High surge current capability
* High reliability
* Low reverse current
* Low forward voltage drop
* Pb / RoHS Free

MECHANICAL DATA :

* Case : DO-41 Molded plastic
* Epoxy : UL94V-O rate flame retardant
* Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
* Polarity : Color band denotes cathode end
* Mounting position : Any
* Weight : 0.335 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

RATING	SYMBOL	BYW54	BYW55	BYW56	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	600	800	1000	V
Maximum Crest Working Reverse Voltage	V_{RWM}	600	800	1000	V
Maximum Continuous Reverse Voltage	V_R	600	800	1000	V
Min. Reverse Avalanche Breakdown Voltage @ I_R = 0.1 mA	$V_{(BR)R\text{-}min.}$	650	900	1100	V
Maximum Average Forward Current Ttp = 45 °C (Note 1)	$I_{F(AV)}$	2.0			A
Maximum Non-Repetitive Peak Forward Surge Current	I_{FSM}	50			A
Maximum Repetitive Peak Forward Current	I_{FRM}	12			A
Maximum Forward Voltage at I_F = 1.0 A	V_F	1.0			V
Maximum Reverse Current at $V_R = V_{RRM}$	I_R	1.0			µA
$V_R = V_{RRM}$, Tj = 165 °C	$I_{R(H)}$	150			µA
Typical Reverse Recovery Time (Note 2)	Trr	3.0			µs
Thermal Resistance - Junction to Ambient	$R_{\Theta JA}$	100			K / W
Junction Temperature Range	T_J	- 65 to + 175			°C
Storage Temperature Range	T_{STG}	- 65 to + 175			°C

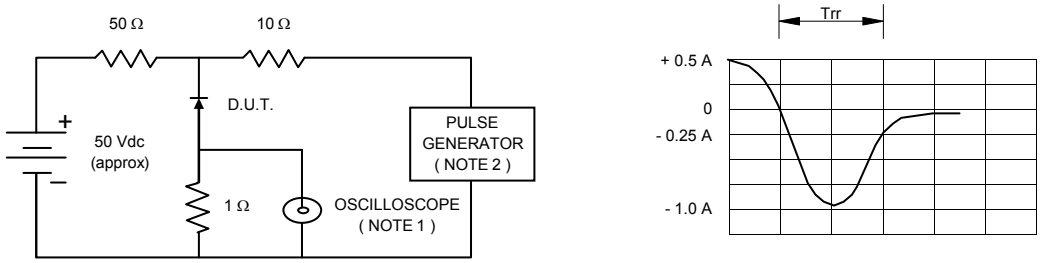
Notes :

(1) Lead Length 10 mm.

(2) Test Conditions : I_F = 0.5 A to I_R = 1 A ; measured at Irr= 0.25 A

RATING AND CHARACTERISTIC CURVES (BYW54 - BYW56)

FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES : 1. Rise Time = 7 ns max., Input Impedance = 1 megaohm, 22 pF.
2. Rise time = 10 ns max., Source Impedance = 50 ohms.
3. All Resistors = Non-inductive Types.

FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

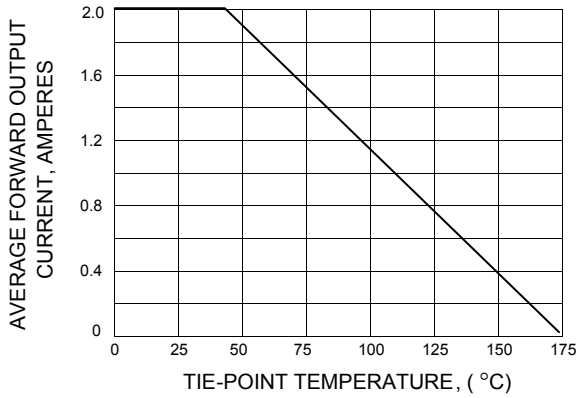


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

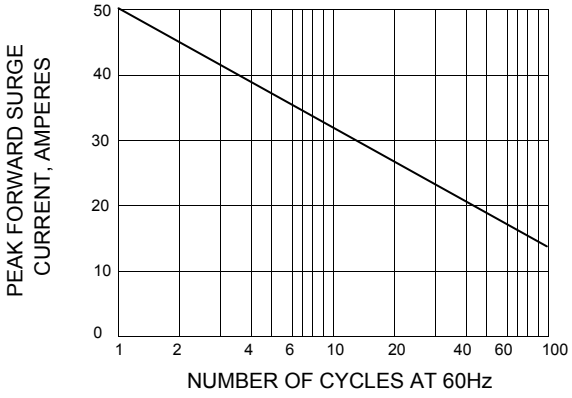


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

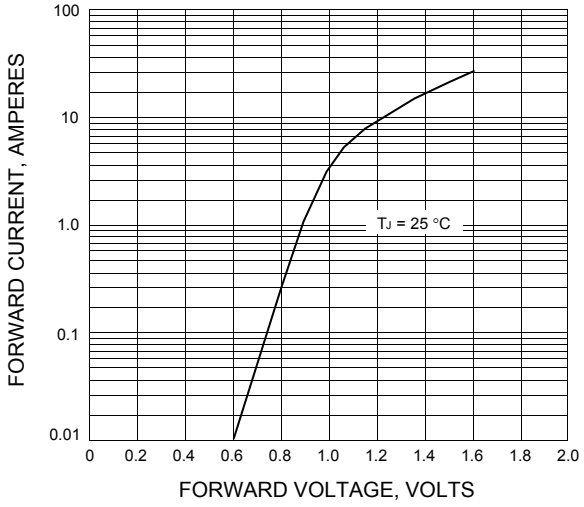


FIG.5 - TYPICAL REVERSE CHARACTERISTICS